

# The New Chinese Type 98 MBT: A Second Look Reveals More Details

by James M. Warford

Since the first article on the Chinese Type 98 MBT appeared in the May-June 2000 issue of *ARMOR* ("The Chinese Type 98 Main Battle Tank: A New Beast from the East"),<sup>1</sup> there has been additional information available regarding the tank's firepower, armor protection, and production-deployment status. This additional information actually confirms initial assessments and solidifies the serious threat posed by the Type 98.

Since it was first seen during the rehearsals for the massive 50th Anniversary parade held in Beijing on October 1, 1999, observers have tried to piece together the small bits of available information concerning the Type 98. Photographs and video footage from the parade confirmed that the tank is armed with a 125mm smoothbore main gun, but very little was known about the ammunition it fires. Now there have been a series of unconfirmed reports that the Type 98 (and other Chinese 125mm-armed MBTs) use Israeli-designed APFSDS ammunition and that the Chinese have developed depleted uranium (DU) rounds for their tanks. As far as the Israelis are concerned, they are certainly marketing their M711 125mm APFSDS round to somebody, and the Chinese are a likely customer. The solution to the DU part of this equation was apparently displayed during a recent military exhibition in China that included Chinese 100mm DU ammunition. Although not specifically intended for the Type 98, this DU development clearly indicates that DU ammunition is available to the PLA. Interestingly enough, published reports have also recently confirmed that Pakistan is currently marketing at least two DU tank rounds. Pakistan is a close Chinese ally and currently employs both the Chinese 125mm-armed Type 85-IIAP MBT as well as the new limited-production Al-Khalid MBT.

Some of the most heated discussions relating to the Type 98 involve the tank's turret frontal armor protection. External examination confirms a major



Chinese Type 98 tanks are seen in the first three ranks, followed by earlier Type 88CS in this parade photo.

change in frontal armor, incorporating composite armor arrays and armor cavities on each side of the main gun. Similar in many ways to the turret armor cavities used on the Russian T-80U, T-72B, and T-90S MBTs, the Type 98's armor cavities are easily accessible through two cover-plates fitted flush with the turret roof and held in-place by eight bolts. These two composite armor cavities apparently evolved from a design seen on early prototypes of the Type 98. Unlike the two large cavities used on the production Type 98, these prototypes were fitted with two small cavities on each side of the main gun. According to published reports, these smaller cavities provided access to the mounting bolts that attached the composite armor arrays or modules to the turret base armor. This would allow damaged or obsolete armor arrays to be replaced by the tank crew while in the field. In fact, the Type 98 is also fitted with six lifting "eyes" which could be used with a T-shaped lifting sling to facilitate the replacement of the turret frontal armor modules under field conditions.

While the two large armor cavities on the Type 98 may also be used to provide access to these internal mounting bolts, they most likely also provide

storage for some kind of removable composite armor material. Although the design and configuration of the tank's composite armor remains unknown, published reports continue to hint at a relationship between the Type 98's armor and the armor protecting the Russian T-80U and T-80UK. While the "closeness" of this relationship is unknown, it's clear that the Chinese had complete knowledge of the armor protecting these two Russian tanks while they were working on the Type 98. The Type 98's armor configuration also implies that the Chinese may have received assistance from another source as well. The Israelis have done extensive work on updating the armor protecting their older tanks and the more modern Merkava MBT. The Merkava, in particular, is known to incorporate modular armor in its design. Several recently published photographs have appeared clearly showing Israeli Merkava Mk 3s in Lebanon fitted with new modular armor arrays unofficially called "Lebanon" armor. Published sources have confirmed that this Israeli modular armor is designed to be changed in the field.

One of the biggest mysteries surrounding the Type 98 is the tank's current production-deployment status. The



Two Type 98s on parade in October, 1999. The tank's 125mm main gun may be using depleted uranium ammunition, according to some reports.

fact that only 18 of the new tanks participated in the October 1st parade has led to additional speculation that the Type 98 may have only been produced in that quantity to make a point to parade observers. New information indicates, however, that the Type 98's role in the PLA may be much larger than these observers initially believed. The Chinese are currently mass producing two MBTs, the 105mm-armed Type 88B and the 125mm-armed Type 88C, at their primary tank production facility, Factory No. 617. Published photos have confirmed that the Type 98 is in limited production at this same factory. Reportedly, only about a battalion-set of Type 98s have been produced (31 tanks) to date. When deployment of these new tanks is considered, however, this small group may actually be part of a much larger production and deployment effort.

According to unconfirmed reports, the PLA currently deploys 10 active tank divisions, each one supporting a Group Army (GA). Of these, the 38th and 39th GAs are generally considered the highest priority and best-equipped organizations in the PLA. The 38th GA's tank division (the 6th Tank Division) is also known as the "Digital" Tank Division, and is based in the Beijing Military Region. Conflicting reports place Type 98s in the 6th "Digital" Tank Division, as well as the 8th Tank Division (of the 26th GA). Additionally, reports have associated the Type 98 with the 7th Tank Division, which is reportedly being reorganized in the Beijing Military Region as a "blue tank brigade." All of this information supports the contention that there are more Type 98s being produced and deployed than initially believed.

The key remaining question is, "Where will the Chinese go from here?" The secrecy surrounding the future of the Type 98 is still fairly intact, but there is

enough information available to piece together what may be next for the Type 98. A model of this next step for the Type 98 is actually just starting to roll off the production lines in Pakistan. The tank in question is the Al-Khalid and it could very well represent, not the actual tank, but a critical cooperative relationship between the Chinese and the Ukrainians. The Al-Khalid is the result of a three-way development effort involving China, Pakistan, and Ukraine. While the level of Ukrainian participation is unconfirmed, published reports have confirmed that the Al-Khalid uses a Ukrainian engine and transmission, and that a number of these same components were recently supplied directly to China. As opposed to developing a new tank, the Ukrainians have been hard at work rebuilding and upgrading their existing MBT designs, with the T-72-120, T-72MP, and T-80UD/Object 478BEh clearly showing the results. In fact, the success of this effort can be seen by the recently completed delivery of 320 Ukrainian T-80UD/Object 478BEh MBTs to Pakistan, which makes Ukraine the world's leading exporter of T-80-series tanks.

Interestingly enough, at about the same time the Ukrainians announced the development of their new 120mm-armed T-84-120 MBT, information concerning a new variant of the Chinese Type 98 called the Type 98B began to appear. The T-84-120 "Oplot" is a new variant of the Ukrainian T-84 MBT that mounts one of apparently two or three different 120mm main guns in a new turret, fitted with a bustle-mounted autoloader. The incorporation of a turret bustle-mounted autoloader (instead of the Soviet/Russian style carousel autoloader) is a huge advance for Ukrainian tank design; and reaffirms the advantages and maturity of modern Ukrainian tanks over their Russian competitors. The T-84-120 (fitted with the Swiss Compact 120mm

main gun) is the Ukrainian tank currently competing in the Turkish tank competition. This confirmed tank development relationship between China and Ukraine and the timely announcements revealing both the T-84-120 and the Type 98B, point to a relationship between these two designs. In fact, much of the speculation concerning the Type 98B includes its use of a bustle-mounted autoloader in a new turret.

The Type 98 is a significant tank for the Chinese and for their potential adversaries. It represents a modern heavy armor threat in an era where some countries seem to be moving away from the proven mobile protected firepower offered by the MBT. One thing is clear, the Type 98 is a post-Desert Storm tank that incorporates the lessons the Chinese learned from that conflict; lessons that will characterize the next battlefield.

<sup>1</sup>When the *ARMOR* article was reprinted in the February 2001 issue of the Chinese military magazine *WuChi (WEAPON)*, the article was re-titled from "New Beast from the East" to "Heroic Lions from the East." — Ed.

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